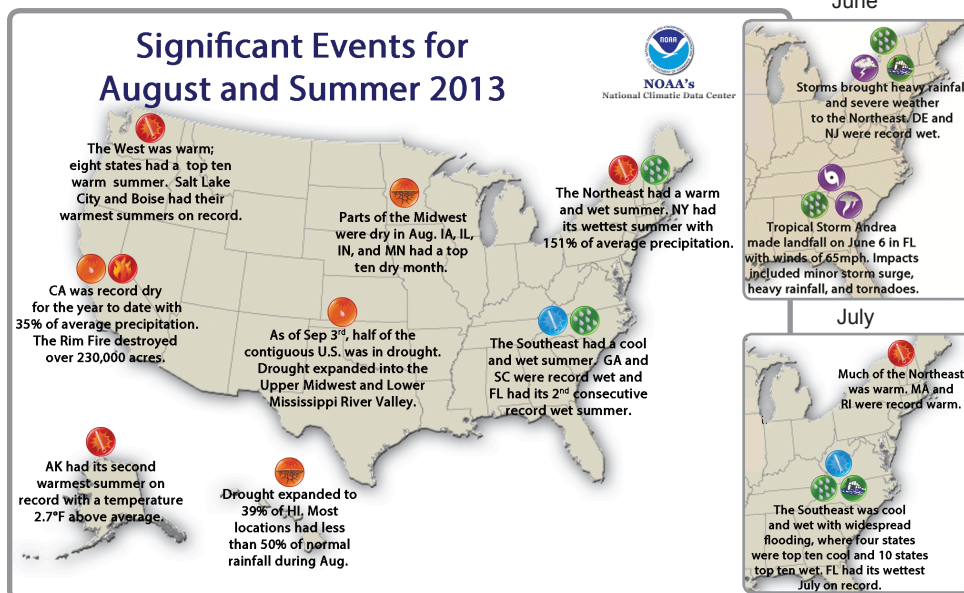


National - Significant Events for June–August 2013



Highlights for the East

Flash flooding occurred in every Eastern Region state in June or July. In New York, the Oneida Creek reached a record-high 17.23 feet on June 28. On July 29 in North Carolina, the South Fork Catawba River had its third highest crest on record, 17.31 feet. Also, Lake Champlain rose to a record-high July level of 99.68 feet on July 7 and 8 due to heavy rain runoff.

Wallops Island, VA, set a record when the temperature did not drop below 70 degrees F, even at night, from June 23–July 24. Several other cities set similar records, including Washington D.C., where the temperature did not drop below 80 degrees F from July 16–20. The warm weather also caused New York City and Westchester County, NY, to set an all-time peak electric usage record of 13,322 MW on July 19.

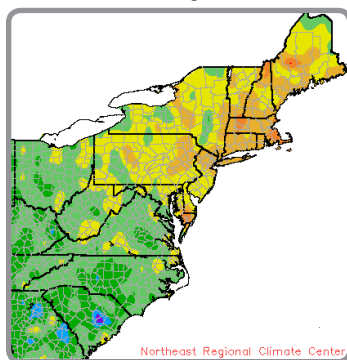
Philadelphia, PA, had back-to-back record wet months: June with 10.56 inches and July with 13.24 inches. Wilmington, DE, had its wettest June on record with 13.66 inches. Roanoke, VA, with 12.73 inches, Greenville-Spartanburg, SC, with 14.45 inches, and Asheville, NC, with 13.69 inches, had their wettest Julys on record.

The contiguous United States' summer average temperature of 72.6 degrees F was 1.2 degrees F warmer than the 20th century average. This made it the 15th warmest summer on record for the lower 48 states. During the summer, the contiguous United States received an average of 9.53 inches of rain, 1.28 inches above the 20th century average. This made it the wettest summer since 2004 and the eighth wettest summer on record in the lower 48 states.

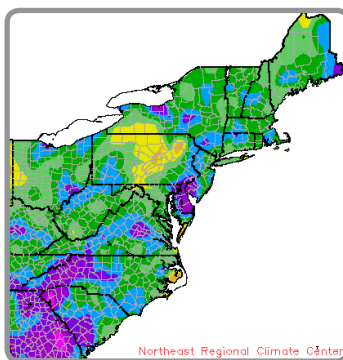
Regional - Climate Overview for June–August 2013

Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)
June 1–August 31, 2013

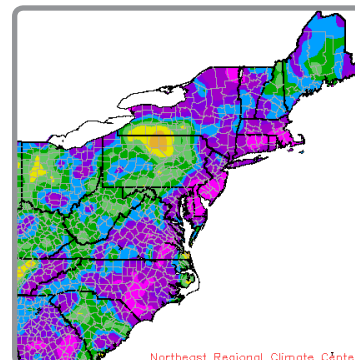


Percent of Normal Precipitation (%)
June 1–August 31, 2013



June: Waterlogged

Percent of Normal Precipitation (%)
June 1–30, 2013



With an average temperature of 71.0 degrees F, summer was 0.1 degrees F warmer than normal in the region. Eleven of the sixteen states were warmer than normal, with seven states ranking this summer among their top 20 warmest. While June was warmer than normal, the northernmost states sweltered in July. Eleven states ranked this July among their top 20 warmest. At +4.6 degrees F and +4.5 degrees F respectively, Rhode Island and Massachusetts had their warmest July on record. August was a cool month in the region with fifteen of the sixteen states cooler than normal.

The Eastern Region had its wettest summer on record with 18.47 inches of rain, 144% of normal. All sixteen states ranked this summer among their top eleven wettest, with South Carolina (173% of normal) and New York (137% of normal) seeing their wettest summers on record. Philadelphia, PA, Asheville, NC, and Greenville-Spartanburg, SC, also had their wettest summers on record. On the heels of an extremely wet June, July was also quite wet, with nine states ranking it among their top fifteen wettest. August was nearly split with nine wet states and seven dry states.

Fifteen of the region's sixteen states ranked this June among their ten wettest. In fact, eleven states ranked it in their top five wettest. Delaware and New Jersey had their wettest Junes on record at 283% and 238% of normal respectively. Three of Pennsylvania's divisions, three of South Carolina's divisions and one of Connecticut's divisions also had their wettest June on record.

Dry conditions were found in thirteen states at the start of June, but abundant precipitation through early July erased dryness by mid-July. However, an area of abnormal dryness crept back into Pennsylvania by late August.

Regional - Impacts for June–August 2013



Above: Brown tide cell densities in cells per milliliter in Great South Bay south of Long Island, NY, on July 2, 2013. Below: Brown tide cell densities in the same locations on July 15, 2013. (Maps courtesy of Christopher Gobler, Gobler Laboratory of Stony Brook University.)



Brown Tide

Heavy rain in June is likely to blame for the first summer brown tide since 2008 in Great South Bay south of Long Island, NY. Excessive nitrogen was flushed into the waters and stimulated the algal blooms that cause brown tide. On July 2 brown tide organism were recorded at 1+ million cells per millimeter west of Islip. By reducing the amount of light that passes through the water, brown tide seriously impacts eelgrass, which provides spawning grounds for fish and shellfish and is a major part of the food web. Since the brown tide has a water temperature threshold of around 80 degrees F, the mid-July heat wave helped algae levels subside.

(<http://www.seagrant.sunysb.edu/articles/t/brown-tide-research-initiative-about-brown-tide>)

Crop Conditions

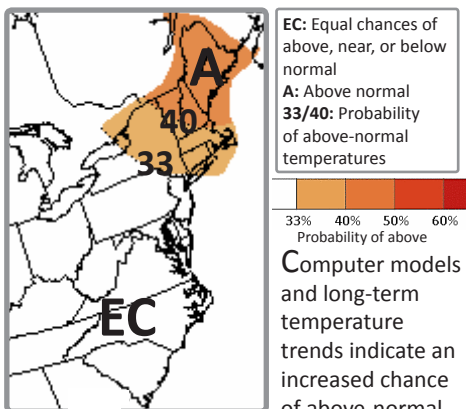
Persistent precipitation during summer affected farmers across the region. Rain delayed growers from harvesting and planting crops, cutting hay, and applying treatments. In the Carolinas, the flavor and quality of tobacco, peaches, and watermelons were degraded and mold and fungal diseases damaged corn, tomato, and peanut crops. In North Carolina, growers in Cleveland County reported berry losses due to fruit swelling, and in Columbus County around 15% of intended soybean plantings did not get planted. In South Carolina, around 20% of wheat was left in the ground as farmers were unable to access soggy fields, and winter wheat harvest finished a month behind normal. With crop damage exceeding 30% in 36 of South Carolina's 42 counties, the state was declared an agricultural disaster area in late August. This designation allows qualifying farmers to apply for low-interest emergency loans and other federal assistance programs. Farmers in fourteen neighboring North Carolina counties can also apply for assistance.

(<http://www.ncagr.gov/stats/weather/weather.htm>) & (<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1574>)

Regional - Outlook for Fall 2013

Three-Month Temperature Outlook

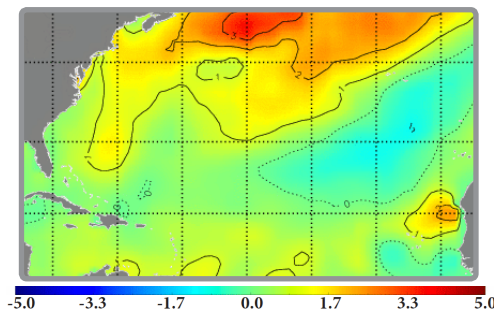
Valid for October–December 2013



part of the region. In the figure above, areas marked by a 40 are predicted to have a 40% to 50% chance of being warmer than normal, a 33.3% chance of being near-normal, and less than a 33.3% chance of being cooler than normal. Areas marked by a 33 have a 33.3% to 40% chance of experiencing above-normal temperatures, a 33.3% chance of near-normal temperatures, and less than a 33.3% chance of below-normal temperatures. Areas with no clear climate signals, marked EC, have equal chances of above-, near-, or below-normal temperatures, meaning each category has a 33.3% chance of occurring.

Updated 2013 Atlantic Hurricane Season Outlook

Sea Surface Temperature Anomaly (°C)
September 14, 2013 (Credit: National Hurricane Center)



The Atlantic hurricane season is still expected to be above-normal, according to NOAA's updated outlook issued on August 8. As atmospheric and oceanic conditions are expected to be favorable for storm development (see above-normal sea surface temperatures above), the updated outlook calls for a 70% chance of each of the following: 13-19 named storms, 6-9 hurricanes, and 3-5 major hurricanes. In comparison, the outlook issued in May predicted 13-20 named storms, 7-11 hurricanes, and 3-6 major hurricanes. The reduced numbers resulted from a decreased likelihood of La Niña development, the lack of July hurricanes, variable tropical Atlantic wind patterns, and lower hurricane season model predictions. The season, which runs from June 1–November 30, has already produced nine named storms.

Eastern Region Partners

National Oceanic and Atmospheric Administration
www.noaa.gov

National Climatic Data Center

www.ncdc.noaa.gov

National Weather Service, Eastern Region

www.weather.gov

NOAA Fisheries Science Centers and Regional Offices, Northeast and Southeast

www.nmfs.noaa.gov

Coastal Services Center and National Centers for Ocean and Coastal Science

www.oceanservice.noaa.gov

NOAA Research, Climate Program Office and Geophysical Fluid Dynamics Lab

www.oar.noaa.gov

NOAA National Sea Grant Office

www.seagrant.noaa.gov

NOAA's North Atlantic, South Atlantic, and Great Lakes Regional Collaboration Teams

www.regions.noaa.gov

Climate Prediction Center

www.cpc.noaa.gov

Northeast Regional Climate Center

www.nrcc.cornell.edu

Southeast Regional Climate Center

www.sercc.com

National Integrated Drought Information System

www.drought.gov

Carolinas Integrated Sciences and Assessments

www.cisa.sc.edu

Consortium on Climate Risk in the Urban Northeast

www.ccrun.org

Cooperative Institute for North Atlantic Research

www.cinar.org

Eastern Region State Climatologists

www.stateclimate.org

Normals based on 1981–2010